

ABSTRACT

Statement of problem: Tooth with severe loss of coronal structure due to decay or attrition often go for extraction as it cannot support a crown. The restoration of such teeth with only core build-up and no post or crown has not been specified in the literature with regards to its fracture resistance to the occlusal forces.

Purpose: The purpose of this study was to compare the fracture resistance of severely attrited endodontically treated teeth with three different core build-up materials.

Materials and methods: Root canal treatment was done for a sample of 30 extracted molars and the crown height was reduced upto 2mm short of cementoenamel junction. Teeth were grouped into 3 of 10 molars in each group and core build-up done with EverX posterior composite (group A), Multicore DC (group B) and Rebilda DC (group C). The sample was mounted in the mounting device and load testing done using Universal testing machine.

Results: On comparing the three groups, the maximum fracture resistance was observed in group B (Multicore Dual cure composite) and minimum fracture resistance in group A (EverX posterior composite).

Conclusion: Within the limitations of this study, it can be concluded that there was a significant variation in the fracture resistances of the three different core build-up materials used in the study. Highest fracture resistance was observed in group B and least amount was seen in group A.

KEYWORDS

Fracture resistance, endodontically treated teeth, severely attrited teeth.